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Submitting Organization
GENERAL ELECTRIC CORP

Contractor
SEALED AIR CORP

Document Title
MATERIAL SAFETY DATA SHEET ON INSTAPAK COMPONENT "A" WITH COVER LETTER

Chemical Category
4,4'-DIPHENYLMETHANE DIISOCYANATE (101-68-8-)

CONTAINS NO CBI

GE Aircraft Engines

General Electric Company
P.O. Box 156301, One Neumann Way
Cincinnati, OH 45215-6301
513 243-2000

Dec. 27, 1990

TSCA Document Processing Center (TS-790)
Office of Toxic Substances
Environmental Protection Agency
401 M Street, SW
Washington, DC 20460
ATTN. 8(d) Reporting

86910000586

Please find attached the available information (Material Safety Data Sheet - MSDS) on the material which GE Aircraft Engines, Evendale, Ohio has in it's possession concerning Instapak Component A from Sealed Air Corporation. The Component A contains CSA #101-68-8: 1,1'-methylenebis(4-isocyanato- which is also known as 4,4' Diphenylemthane Diisocyanate -(MDI). This information is being provided under 40 CFR Parts 712 and 716 as part of the Health and Safety Data Reporting requirements.

GE Aircraft Engines has not performed any health and safety study, is not aware of any such study, and is currently not performing such study on this material.

If you have any questions, please contact me at (513) 243-5194.

Sincerely,

Martin Schneider

Martin Schneider
Environmental Engineer
Environmental Engineering Programs

cc. T. Sauer, GE
K. Lautenschlegar, GE

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MATERIAL SAFETY DATA SHEET

Sealed Air Corporation
Engineered Products Division
Old Sherman Tnpk., Danbury, CT 06810. (203) 791-3500

EMERGENCY TELEPHONE NO: (203) 791-3500 M-F 8:30-5:00 ET
CHEMTREC 1-800-424-9300 (for spill, leak, fire, exposure or accident, 24 hours)

PRODUCT INDENTIFICATION

Product Name:	INSTAPAK® COMPONENT "A"
Chemical Name:	Polymethylene Polyphenylisocyanate
Trade Name:	Crude MDI
Chemical Family:	Aromatic Isocyanates
Chemical Formula:	N.A.

FILE No. 212
DATE REC'D 3/89

HAZARDOUS INGREDIENTS

Material	CAS No.	%	OSHA-PEL	ACGIH-TLV
4, 4' Diphenylmethane Diisocyanate (MDI)	101-68-8	≈50	0.02 ppm (Ceiling)	0.005 ppm (TWA)
Higher molecular weight oligomers of MDI.	9016-87-9	≈50	N.E., use PEL as a guide.	

PHYSICAL DATA

Form: Liquid
Color: Dark Brown
Odor: Slightly Aromatic
Vapor Density (Air=1): 8.5
Molecular Weight: Approx. 350
Melting Point: N.A.

Boiling Point: 625°F (329°C)
Vapor Pressure: $< 10^{-4}$mm Hg @ 25°C
Specific Gravity: 1.24 @ 25°C
Bulk Density: 10.3 lbs/gal
Solubility in Water: Reacts with water.
% Volatile by Volume: Nil

FIRE AND EXPLOSION DATA

Flash Point [Method Used]	Flammable Limits	Lel	Uel
390°F (199°C) [PMCC]		N.E.	N.E.

Extinguishing Media: CO_2, Chemical Foam, Dry Chemical, Water spray.

Special Fire Fighting Procedures: Firefighters must wear self-contained breathing apparatus to protect against toxic and irritating vapors; full protective clothing should also be worn. Avoid water contamination in closed containers; carbon dioxide is evolved which can cause pressure build-up. **Caution:** Reaction between water and hot isocyanate can be vigorous.

Sealed Air Corporation
Engineered Products Division
Old Sherman Tnpk., Danbury, CT 06810, (203) 791-3500

HUMAN HEALTH DATA

Primary Route(s) of Exposure: Inhalation, however, due to low vapor pressure, overexposure is not expected under normal conditions unless material is heated or used in a poorly ventilated area.

EFFECTS OF OVEREXPOSURE

Inhalation: May lead to mucous membrane irritation, tightening of chest, respiratory tract irritation, coughing, headache, shortness of breath. May lead to allergic sensitivity in some individuals resulting in asthma-like symptoms upon exposure below TLV. Sensitized persons should be removed from any further exposure. Persons with asthma-type conditions or other chronic respiratory diseases should be excluded from working with MDI.
Skin Contact: Localized irritation and discoloration may occur. Occasionally, contact dermatitis is produced as a manifestation of a specific skin allergy.
Eye Contact: Liquid can cause eye irritation, tearing, reddening and swelling. Permanent corneal injury is unlikely. In addition, vapors in excess of 0.02 ppm may cause irritation.
Ingestion: Ingestion is unlikely. The acute oral LD_{50} for rats is greater than 20g/kg. Ingestion can cause irritation and corrosive action in the mouth, stomach and digestive tract.
Medical Conditions Aggravated by Overexposure: Pulmonary disorders.

EXPOSURE LIMITS: OSHA-PEL Ceiling=0.02 ppm
ACGIH-TLV Time Weighted Average=0.005 ppm

HAZARD CODES:	NFPA			HMIS		
		Health	2		Health	3
		Fire	1		Flammability	1
		Reactivity	1		Reactivity	1
		Special	-W-			

FIRST AID PROCEDURES

Inhalation: Remove to uncontaminated area, administer oxygen if necessary. Asthmatic-like symptoms, if manifested, may develop immediately, or be delayed for up to several hours. Obtain medical attention. Treatment is symptomatic.
Skin Contact: Wash area thoroughly with soap and water. Launder clothing before reuse.
Eye Contact: Flush with water for at least 15 minutes, holding lids open with fingers. Consult a physician.
Ingestion: Do not induce vomiting. Drink water to reduce corrosivity. Consult physician. Treatment is symptomatic.

ANIMAL TOXICITY DATA:

LD_{50}, Oral:	20g/kg (rats)
LD_{50}, Dermal:	15.8g/kg (Rabbits)
LC_{50}, Inhalation:	370mg/M^3 (Rats-4 hrs)
Fish, LC_{50}:	500 mg/l (Daphnea, Limnea, Invertebrates)

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PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Due to the low vapor pressure of this material, the PEL is not likely to be exceeded under normal conditions. If the material is heated or spilled in a confined area, respiratory protection should be worn. Because of their short life and lack of breakthrough indicators, cartridge type respirators equipped for organic vapors are generally not recommended for use with isocyanates. They can be used for short term emergency situations at concentrations below the TLV where the presence of adequate breathing oxygen can be assured. Where concentrations exceed the PEL, supplied air respirators must be used.

Eye Protection: Goggles or safety glasses and face shield.

Protective Clothing: Chemical resistant rubber or plastic gloves.

Ventilation: Use local exhaust if necessary to maintain levels below the PEL.

Other: Safety shower, eyewash station and decontamination solution should be available. See "Recommendations for the Safe Use and Handling of Instapak® Foam-in-Place Chemicals" bulletin before operating equipment.

REACTIVITY DATA

Stability: Stable under normal conditions. Avoid temperatures above 110°F (43°C) or below 40°F (4°C).

Polymerization: May occur, is accelerated at elevated temperatures.

Conditions to Avoid: Contact with moisture and other materials which contain active hydrogen.

Incompatible Materials: Water, amines, strong bases, alcohols, surface active materials.

Hazardous Decomposition Products: By fire or extreme heat, oxides of carbon, oxides of nitrogen, traces of hydrogen cyanide.

SPILL OR LEAK PROCEDURES

Spill should be covered with loose, absorbent, non-biodegradable material. Pour deactivating solution (90% water, 8% concentrated ammonia, 2% detergent) over spill area; allow to react 10 minutes or longer. Collect material in open containers and treat with additional deactivating solution; allow to stand uncovered for 24-48 hours. Wash area with deactivating solution. Respiratory, eye skin protection should be worn during spill clean-up and ventilation maintained.

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WASTE DISPOSAL METHOD

Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations. Also see "Recommendations for the Safe Use and Handling of Instapak® Foam-in-Place Chemicals" bulletin.

SPECIAL PRECAUTIONS AND STORAGE DATA

Storage Temperature: Min. 50°F (10°C) Max 100°F (38°C)

Average Shelf Life: 6 months

Special Sensitivity: Reacts with moisture to produce carbon dioxide gas.

Precautions to be Taken in Handling and Storage: Do not store drums uncovered out of doors. Do not reseal containers unless it is certain that no moisture contamination has occurred. Do not breath vapors or allow skin contact.

SHIPPING DATA

D.O.T Shipping Name: N.A.

Technical Shipping Name: Polymeric Diphenylmethane Diisocyanate

D.O.T. Hazard Classification: Non-Regulated (Not a D.O.T. Poison)

D.O.T. Labels Required: None

UN/NA Number: UN 2489 (Mixture)
Class 6.1, Packaging Group III
Not a DOT Poison

Reportable Quantity: N.A.

Freight Class Bulk: Isocyanate

Freight Class Pkg: Chemical NOI (Isocyanate) NMFC 60000

OTHER REGULATORY INFORMATION

T.S.C.A. Status: All ingredients listed

Threshold Planning Quantity: None

SARA 311/312 Hazard Type: Immediate (acute) Health
Delayed (chronic) Health

SARA 313 Listed Ingredients: 4,4' Diphenylmethane Diisocyanate (≈50% of product)

N.E. = NOT ESTABLISHED N.A. = NOT APPLICABLE A.I. = ACTIVE INGREDIENT

CERTIFICATE OF AUTHENTICITY

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